

**RCRA Compliance Evaluation Inspection**

**Ashland, Inc.**  
329 West Main Street  
Elkton, MD 21921

Cecil County

**RCRA Identification Number: MDD003067832**  
SIC Code: 2821

**Date of Inspection: March 23, 2010**

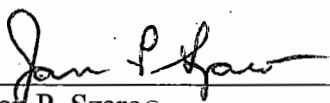
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Land & Chemicals Division  
May, 2010

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## **1.0 Introduction**

On March 23, 2010, the United States Environmental Protection Agency, Region III (EPA), Land and Chemicals Division, Office of Land Enforcement (OLE) conducted an unannounced Compliance Evaluation Inspection (CEI) under the Resource Conservation and Recovery Act (RCRA), as amended, 42 U.S.C. Sections 6901 et seq. of the Ashland, Inc. Specialty Polymers & Adhesives facility in Elkton, MD. USEPA representative Jan Szaro led the inspection and was joined by USEPA Inspectors Jeanna Henry and Gary Morton. The USEPA inspectors were accompanied by Baruch Onyekwelu from the Maryland Department of the Environment (MDE). The facility was represented by Bill Hill, Site Supervisor; Gordon Mueller, Manager of Quality and Continuous Improvement; Andre Simmons, Process Engineer and Sam Park, Production Supervisor.

The inspection team arrived at the facility on March 23rd at 8:35 AM. The EPA inspector identified himself to the receptionist at the Administration Building and asked for Mr. Mueller, Quality Manager. Mr. Mueller immediately reported to the lobby and escorted the inspection team to a nearby conference room in the administration building. Mr. Mueller then had Mr. Hill, Mr. Simmons & Mr. Park notified of the presence of the inspection team. They assembled in the conference room for the opening conference. The inspection team then presented credentials after which Mr. Szaro explained the purpose of the RCRA Subtitle C inspection to be conducted at the facility and that a RCRA Subtitle I UST inspection would be concurrently conducted at the facility. The inspection included an evaluation of the facility's polymer and adhesives manufacturing processes and compliance with the Federal and State hazardous waste regulations.

All information included in this report are the results of statements made by the facility representatives, materials shown to the inspectors by the facility representatives during the inspection, information and documents provided by the facility representatives to EPA during or after the inspection, and a review of the facility's EPA and State records.

## **2.0 General Facility Information**

### **2.1 Description of Facility**

This Ashland, Inc. facility is located at 329 West Main Street in Elkton, Maryland. The facility produces water based polyvinyl acetate emulsions used in the manufacture of adhesives, paints, paper coatings, textiles and non-woven products. A significant portion of the product from the facility is used in the manufacture of wood glue by others.

Documentation exists that this site was active as far back as the Civil War when it housed a brick factory. During World War II Prestolite produced acetylene here. In 1954 the site was developed for use as a polymer manufacturing facility by the Colton Chemical Company. Since that time the facility has changed hands a couple of times and was owned and operated by AIRCO, then by Air Products and Chemicals. On July 1,

2008 Ashland, Inc. acquired two facilities from Air Products and Chemicals, the Elkton facility and a sister facility in Piedmont, SC. Ashland press releases on the acquisition are included as Attachment 1. Facility personnel stated that the production processes currently in operation have not undergone any significant changes since the 1970s.

Ashland, Inc. is headquartered in Lexington, KY with its chemical group based in Dublin, OH. The Elkton facility is part of Ashland's Specialty Products & Adhesives (SP&A) group which is part of the Ashland Performance Materials Division of Ashland, Inc. Mr. David Drummond is the Manufacturing Manager of the SP&A Group. Mr. Herschel Craven is the Plant Manager of the Elkton facility and reports to Mr. Drummond. Mr. Craven was away from the facility the day of the EPA inspection at the Ashland facility in Philadelphia, PA.

The Elkton, MD facility occupies an approximately 20 - 25 acre site that borders on a residential area of Elkton in Cecil County, Maryland. An Amtrak rail line runs immediately behind the facility. The facility is equipped with railroad sidings that are employed for delivery of raw materials and shipping of finished goods. There are about 28 employees at the facility where manufacturing operations are conducted 24 hours per day, 7 days per week. Shipping operations are limited to 5 days per week. A site map of the facility and other general information, provided by the facility, is included as Attachment 2.

### **3.0 Permit Status**

Based on a review of the facility's manifests for 2007, 2008 and 2009, the Ashland Elkton facility is a Large Quantity Generator (LQG) of hazardous waste. The facility is not permitted to store, treat or dispose of hazardous waste and is therefore subject to less than 90-day generator requirements. The facility also maintains an Industrial User Permit, Permit Number IU-1602, with the Town of Elkton to discharge treated waste into the Town's wastewater collection system and the Elkton Wastewater Treatment Facility (EMMTP). A copy of the cover page to the permit is included as Attachment 3.

### **4.0 Process Description**

The primary products of the facility are water based polymers used in the manufacture of paints, paper coatings, wood glues and pressure sensitive adhesives. The facility operates three distinctive reactor systems, each consisting of a primary reactor and assorted ancillary equipment. Two of the systems utilize batch reactors while the remaining system operates as a continuous polymerization process.

For each of the reactor systems multiple delays of premixed materials are fed to the primary reactor to support the reaction process. All flow rates and reaction rates are constantly monitored and controlled automatically from the Manufacturing Building Process Control Room. From the primary reactor, the reacted material is then transferred into other equipment, such as blenders and mixers, where further additives, biocides,

defoamers and other ingredients are added to complete the manufacturing process. The finished products, after QC approval, are then transferred thru a filtering operation, using static and/or vibratory filters units, into product storage tanks to await shipment.

## **5.0 Hazardous and Universal Waste Generation**

Prior to beginning the tour of the facility the waste streams generated by the facility were discussed. The facility representatives stated that there is a single source of hazardous waste at the facility. A caustic-methanol solution is employed for periodic reactor cleaning. The caustic-methanol solution is stored in Tank 244 located in the North Product Storage Area. The solution is a mixture of approximately 70% methanol and 30% caustic. A 50% sodium hydroxide solution is used for the caustic portion.

The reactors are all of stainless steel construction. The continuous reactor is cleaned with the caustic-methanol solution after each campaign. The batch reactors are power washed with water after each run. The water generated is pumped through to the blender and combined with product material. After 20-30 batches in a reactor, the reactor is then cleaned with the caustic-methanol solution.

After each reactor cleaning, the caustic-methanol solution is pumped back to Tank 244. The solution is used over and over again for reactor cleaning. With each cleaning the solution will pick up some of the polymer coating the reactor surfaces. Based on the history of the cleaning process, the facility starts to sample the caustic cleaner after about 9 months of use. Viscosity is checked which indicates the level of contamination of the solution. When it is determined that the solution is no longer sufficiently effective, the decision is made to ship the material off as Hazardous Waste. This event occurs approximately annually. The entire solution contained in Tank 244 is shipped off as D001/ D002 hazardous waste. The shipment usually consists of three tanker trucks of the material. Once emptied, a fresh caustic-methanol solution is prepared in Tank 244.

The facility representatives again stated that there are no other generation points of hazardous waste at the facility. Therefore, there are no 90 day or satellite accumulation areas at the facility. The inspectors raised the question of the disposition of any off-grade material generated that requires disposal to which the reply was that any such material generated would be water based polymer that would not contain a sufficient content of unreacted monomer such that the material would be determined to be a hazardous waste.

The operation of any on-site laboratories was next discussed. Research and Development activities were said to take place at the Ashland Chemicals Group facility in Dublin, OH. The Elkton facility maintains a Main Lab and Quality Lab where the functions were stated to primarily consist of product testing of the various latexes prior to release to shipping. Raw materials do not undergo testing prior to acceptance by the facility. The facility relies on quality assurance documentation that accompanies each incoming shipment.

There is a waste water treatment area primarily consisting of an ultrafiltration loop process. Sumps located throughout the facility collect waste water that is pumped to Effluent Tanks B & C. Material from these effluent tanks is then batched thru the ultrafiltration process. Clear water is released to the POTW while polymer is concentrated in the process tank. The resultant polymer material collected in the process tank at the conclusion of a batch run is either sold or given away as a product.

Certain processes at the facility generate waste water that is too high in Total BOD to meet the effluent POTW permit standards. The facility isolates these waste waters and collects them in portable containers that are pumped into Effluent Tank A. The material that is collected in Effluent Tank A is shipped out as a nonhazardous waste.

## **5.1 Hazardous Wastes**

- **Caustic-Methanol Solution** – The prevalent hazardous waste is the caustic-methanol reactor cleaning solution. As stated previously, the facility will start sampling this solution after about 9 months of usage to determine its effectiveness. When it is determined that the solution is no longer sufficiently effective the facility arranges to have the entire contents of Tank 244 shipped out as hazardous waste. The removal process usually requires three (3) tanker truck loads to empty the tank. The removal is accomplished with a day or two.
- **Aerosol Cans** – The facility representatives stated that there is not an aerosol can disposal process plan in place. Stated that aerosol can usage is low, there might be a few aerosol cans to be found in the maintenance shop.

## **5.2 Universal Wastes**

- **Used Lamps** – The facility representatives stated only green tip fluorescent lamps are purchased and are thrown out in the general trash when disposed of.
- **Used Batteries** – The representatives stated that the used batteries are collected for recycling. There is one battery powered forklift on-site, the remainder are propane powered.
- **Electronic Waste** – The facility collects their electronic waste and sends it to another Ashland facility, not sure of ultimate management of this waste stream.

### **5.3 Underground Storage Tanks**

- There are five (5) underground storage tanks (UST) in use at the facility consisting of:
  - (2) 25,000 gal vinyl acetate monomer USTs
  - (1) 12,000 gal butyl acrylate monomer UST
  - (1) 6,000 gal butyl acrylate monomer UST
  - (1) 10,000 gal heating oil UST

The vinyl acetate monomer and butyl acrylate monomer USTs are raw material storage tanks. The heating oil UST is used as a backup fuel supply to the natural gas normally used for the process steam boiler. These USTs were inspected by the EPA inspection team as the hazardous waste CEI was being performed. A separate inspection report was generated for the UST inspection.

### **6.0 Inspection Observations**

#### **6.1 Warehouse 7**

This is a small warehouse used for the storage of raw materials and sundry other items including Gaylord containers of a nonhazardous waste stream. PHOTO C-2 of the Photographic Log (included as Attachment 4) shows ten (10) Gaylord containers of nonhazardous waste observed during the inspection. The label on one of these containers is shown in PHOTO C-3.

The light fixtures observed in this area (shown in PHOTO C-1) appeared to be of the type that would house mercury containing lamps.

#### **6.2 Main Shipping Room**

SWECO vibratory filter and FSI bag filtering mechanisms were observed in this area. An open Gaylord container of the type observed in Warehouse 7 was observed in this area. The label on the container is seen in PHOTO C-5 while the contents of the container are seen in PHOTO C-4. The contents appeared to consist of dried polymer filtrate, used filter media and general trash.

#### **6.3 Laboratories**

The laboratories at the facility were observed. There did not appear to be any materials present that would be hazardous wastes. A sink was observed that appeared to be connected to one of the sumps that feeds the waste water effluent tanks B & C.

#### **6.4 Raw Material Warehouse**

This area is used for additional raw material storage, similar to Warehouse 7. One part of the area is also known as the "Weigh Room" where raw materials are weighed and prepped for use in manufacturing operations. In the polyvinyl alcohol (PVA) dissolver area a significant amount of spilled PVA was observed on the floor as a result of leaks in the auger system used to feed the dry PVA to the dissolver. See PHOTO C-6.

#### **6.5 EAST Storage Area**

The waste water effluent tanks are located inside this diked area. Effluent tanks B & C are shown in PHOTOS C-10 & C-11 respectively. Effluent tank A is shown in PHOTO C-8. Labeling on PHOTO C-9 identifies the contents of Effluent Tank A as high B.O.D. waste water and is additionally labeled as corrosive.

#### **6.6 North Product Tank Farm**

This area was observed to be a diked in area housing several product storage tanks and the Caustic-Methanol reactor cleaning solution tank. The caustic-methanol tank, Tank FB-244, is shown in PHOTO C-14. A close-up of the labeling on the tank is shown in PHOTO C-15. The tank is labeled that the contents are corrosive and flammable.

#### **6.7 Maintenance Shop**

A tall storage cabinet labeled as flammable was observed in the area. When opened, see PHOTO C-17, the cabinet was observed to be full of aerosol can products. PHOTOS C-18, C-19 & C-20 show the contents of some of the individual shelves in the cabinet. Additional cases of aerosol cans were observed next to the cabinet in PHOTO C-17. Most of the aerosol cans observed would have contents that would require hazardous waste disposal methods.

One Safety Kleen parts washer was also observed in the shop area, see PHOTO C-21. The label identified the solvent used in the parts cleaner as Safety Kleen Premium Gold solvent.

Containers of new fluorescent lamps were observed stored on a shelf above the maintenance shop office, PHOTO C-22. These lamps were marked by the manufacturer as ECOLUX F34CW-RS-WM-ECO. Nearby, on a cabinet shelf a supply of GE Multi-Vapor lamps was observed. One of the lamps with sleeve is shown in PHOTOS C-23 & C-24. The sleeve identifies this type of lamp as containing mercury.

#### **7.0 Records Review**

##### **7.1 Manifests**

Manifests for calendar years 2008 and 2009 were reviewed as part of the inspection. Based on the manifests and confirmed by the 2009 biennial report, the



Ashland Elkton facility would be categorized as a Large Quantity Generator of hazardous waste. A copy of the 2009 Biennial Report for the facility is included as Attachment 5. All of the manifests observed appeared to be in good order as did the Land Disposal Restriction forms. It was noted that for both 2008 and 2009 the hazardous waste manifests consisted solely of annual shipments from the caustic-methanol tank (TK-244). In each instance the shipments consisted of three (3) tank truck loads over a 3-day period.

## **7.2 Inspection Logs**

The facility did not have any inspection logs as the facility does not normally accumulate hazardous waste. When it is determined that the caustic-methanol solution is not effective enough cleaning the process equipment, the entire solution stored in TK-244 is shipped out as hazardous waste within a period of approximately three days. A new solution is then prepared in TK-244.

## **7.3 Hazardous Waste Job Descriptions**

The hazardous waste job descriptions maintained by the facility were reviewed and appeared to fulfill the regulatory requirements.

## **7.4 Training**

The hazardous waste training records and program content were reviewed and appeared to fulfill the regulatory requirements. Copies of the training records and the training program content summary are included as Attachment 6.

## **7.5 Contingency Plan**

The contingency plan observed at the facility had been revised in June 2009 and appeared to fulfill the necessary requirements of the regulations except for the following:

A) Mike Billow was listed as the Plant Manager but Mr. Billow had retired and been succeeded by Herschel Craven. The facility representatives stated that a new revision was in DRAFT form and included this change.

B) A list of the location of emergency equipment and its capabilities was not included in the Contingency Plan.

A copy of the June 2009 revised Contingency Plan is included as Attachment 7.

## **7.6 Waste Analyses**

The waste profile sheet for the Effluent Tank A "High B.O.D. Waste water" is included as Attachment 8. The profile sheet was reviewed as a corrosive label was observed to be attached to Effluent Tank A. The profile sheet notes that the waste stream is shipped with a pH range of 5.0 – 9.0. The profile also notes that the flash point of the

material is greater than 140 degrees Fahrenheit. A separate footnote states that the "Waste is not RCRA D001 ignitable due to alcohol exclusion(40 CFR 261.21(A)(1))".

## **8.0 Closing**

**Areas of concern raised are as follows:**

- 1) Aerosol cans being disposed of in the general trash**
- 2) Mercury containing lamps being disposed of in the general trash**
- 3) Emergency Coordinator list in Contingency Plan not current**
- 4) Contingency Plan did not contain list of emergency equipment with capabilities**

*The facility sent additional information on April 7, 2010 which included a copy of the April 2010 revision of the Contingency Plan. This revision contained a current list of the Emergency Coordinators as well as a list of the emergency equipment that includes its capabilities. A copy of the plan is included as Attachment 9.*

## **9.0 Attachments**

1. Ashland press releases on Elkton facility acquisition
2. Facility site map and other general information
3. Waste water permit
4. Photographic Log
5. 2009 Biennial Report
6. Training records and training program content
7. June 2009 revision of Contingency Plan
8. High B.O.D. waste water waste profile sheet
9. April 2010 revision of Contingency Plan

# ATTACHMENT 1

# ATTACHMENT 2

# ASHLAND®

## Facility Fact Sheet

**Manager:** Mike Billow

**Number of Employees:** (27) Twenty Seven

**Products Manufactured:** Polyvinyl Acetate Emulsions used in the manufacture of adhesives, paints, paper coatings, textiles, and non-woven products.

**Equipment:** 150 million lbs/year capacity. Three operating systems producing both batch and continuous process polymers. Products stored in 34 bulk storage tanks ranging in size from 4,000 to 25,000 gallons. Major raw materials (Monomers and Surfactants) stored in bulk - approximately 100,000 gallons of storage capacity

**Size of Plant:** Four acre site located southwest end of the town of Elkton, Maryland.

**Year Plant Built:** 1954, major expansion in 1976 and 1981  
1976 - XX System                      1981 - No. 6 Reactor

**Prior to Civil War**  
Brick Factory (no homes)

**During World War II**  
Prestolite (Acetylene Plant)

<b><u>1955</u></b>	<b><u>1958</u></b>	<b><u>1971</u></b>	<b><u>2008</u></b>
Colton Chemical Co	AIRCO	Air Products	Ashland, Inc.

Ashland, Inc. supplies industrial gases, chemicals, process equipment, and engineering services internationally.

# ATTACHMENT 3

# Town of Elkton

## INDUSTRIAL USER PERMIT

PERMIT NUMBER	DATE OF ISSUANCE	EXPIRATION DATE
IU - 1602	JUNE 30, 2008	DECEMBER 31, 2010

In accordance with the provisions of the Code of the Town of Elkton, Chapter 13.12, and all applicable statutory and regulatory provisions of the State of Maryland and the United States, incorporated therein, the Town of Elkton (hereinafter, "the Town") hereby issues this revocable permit to and authorizes:

**Ashland Incorporated**  
**(hereinafter "the Permittee")**  
**329 West Main Street, Elkton, Cecil County, Maryland 21921**

**a facility engaged in polyvinyl acetate emulsions classified by SIC Number 2821**

**and operating said business at**

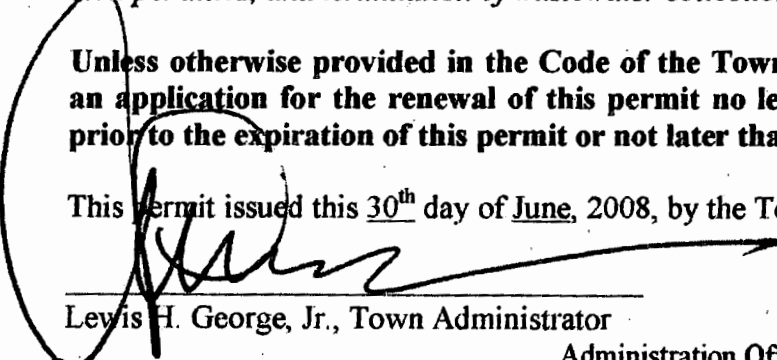
**329 West Main Street, Elkton, Cecil County, Maryland 21921**

**to discharge treated waste into the Town's wastewater collection system and the Elkton Wastewater Treatment Facility (hereinafter "EWWTP")**

Pursuant to the special and general conditions set forth in this permit, the Permittee must comply with all obligations set forth herein and with any and all pretreatment regulations, standards and/or requirements by the Town, the State of Maryland and the United States, which may become effective during the term of this permit, whether or not this permit explicitly includes references to such other requirements by the Town, the State of Maryland and the United States. *The failure of the Permittee to comply with any special and/or general condition of this permit, and/or as otherwise provided in the Code of the Town of Elkton, subjects the Permittee to the penalties and remedies provided under law; including revocation of this permit, criminal and civil penalties, and termination of wastewater collection service to the Permittee.*

**Unless otherwise provided in the Code of the Town of Elkton, the Permittee must submit an application for the renewal of this permit no less than one hundred eighty (180) days prior to the expiration of this permit or not later than July 5, 2010.**

This permit issued this 30<sup>th</sup> day of June, 2008, by the Town of Elkton.

  
Lewis H. George, Jr., Town Administrator

Administration Office

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1<sup>st</sup> REV 03.07.06 2<sup>nd</sup> REV 09.20.06 3<sup>rd</sup> REV 08.24.07 4<sup>th</sup> REV 06.28.08